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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/764,031 | 01/17/2001 | Christoph Kleinlogel | 00-725 | 8064 |

7590 12/10/2001

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EXAMINER

DERRINGTON, JAMES H

| ART UNIT | PAPER NUMBER |
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1731

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DATE MAILED: 12/10/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/764,031

Applicant(s)

KLEINLOGEL

Examiner

Derrington

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 3
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

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1. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and have some grammatical and idiomatic errors. The expression "the educts" does not have antecedent basis. The subscripts "x", "y", "z" and "a" for the formula recited in claim 1, line 2 are not defined and therefore the scope of this claim is vague and indefinite. The recitation "preferably" in each of claims 3, 4, 6, 7 and 8 renders the scope of these claims unclear. The term "in particular" renders claim 5 indefinite. The recitation "at the optimum end temperature" of claim 8 is clearly indefinite.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inaba et al or Overs et al or Van Herle.

Inaba et al disclose the process of sintering gadolinia-doped ceria at 1200 °C (See Fig. 3). The sintered materials can have grain sizes falling within the claimed limitations (See Fig. 6). Because of the current claim language the formula recited in claim 1 is inclusive of an impurity level or zero amount of metal "D" (Cu, Co, Ni, Fe, Mn).

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Overs et al disclose the process of sintering gadolinia-doped ceria at 1000°C (See page 608, first Col., section 5). The sintered materials can have grain sizes falling within the claimed limitations (See page 608, first Col., section 5). Because of the current claim language the formula recited in claim 1 is inclusive of an impurity level or zero amount of metal "D" (Cu, Co, Ni, Fe, Mn).

Van Herle disclose sintering yttria-doped ceria at 1200°C where the particle size of the starting powder that is wet milled is about .5 microns. The resulting sintered article exhibits no grain growth (See 3.1 Results at pages 962 and 963). Because of the current claim language the formula recited in claim 1 is inclusive of an impurity level or zero amount of metal "D" (Cu, Co, Ni, Fe, Mn).

4. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 91/09430 in view of Overs et al.

WO 91/09430 disclose compositions comprising ceria and dopants falling within the formula recited in claim 1 (See page 4). The composition of WO 91/09430 is suitable for producing sintered articles. Overs disclose a related doped ceria where the composition is prepared by coprecipitated oxalates. The resultant materials can be sintered at low temperatures and result in small grain sizes. It would have been obvious for one of ordinary skill in the art to use the coprecipitated oxalate procedure of Overs et al for preparing the doped ceria materials of WO 91/09430 in order to achieve the benefits of low sintering temperature and small grain size.

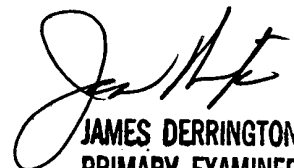
5. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over

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WO 91/09430 in view of Van Herle.

WO 91/09430 disclose compositions comprising ceria and dopants falling within the formula recited in claim 1 (See page 4). The composition of WO 91/09430 is suitable for producing sintered articles. Van Herle disclose a related doped ceria where the composition is prepared by wet ball milling. The resultant materials can be sintered at low temperatures and result in small grain sizes. It would have been obvious for one of ordinary skill in the art to use the wet ball milling process of Van Herle for preparing the doped ceria materials of WO 91/09430 in order to achieve the benefits of low sintering temperatures and very small grain size.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Derrington whose telephone number is (703) 308-3832.


JAMES DERRINGTON
PRIMARY EXAMINER
ART UNIT 137-1731

jd
December 9, 2001